

## CLAIMS

WHAT IS CLAIMED IS:

5           1. A method of treating immunosuppression in a warm-blooded animal, comprising administering to the animal an amount of a composition selected from the group consisting of combretastatin A4, prodrugs thereof, and mixtures thereof, effective to enhance immune responsiveness without causing  
10           vascular destruction.

15           2. A method according to claim 1, comprising administering to the animal said amount of said composition and another agent for counteracting immunosuppression.

20           3. A method according to claim 2, wherein said other agent is a selective inhibitor of NOS.

25           4. A method of treating a warm-blooded animal bearing a tumor, comprising  
            (a) subjecting the animal to immunotherapy to inhibit or kill tumor cells, while  
            (b) administering to the animal an amount of a composition selected from the group consisting of combretastatin A4, prodrugs thereof, and mixtures thereof, effective to enhance immune responsiveness.

30           5. A method according to claim 4, wherein step (a) comprises subjecting the animal to immune stimulating therapy.

35           6. A method according to claim 5, wherein step (a) comprises subjecting the animal to immuno-gene therapy.

            7. A method according to claim 6, wherein step (a) comprises vaccinating the animal with tumor cells genetically modified to produce at least one cytokine that augments a cytolytic immune response.

8. A method according to claim 4, wherein said composition is combretastatin A4.

9. A method according to claim 4, wherein said composition is administered in an amount insufficient to effect substantial destruction of tumor vasculature.

10. A method according to claim 4, wherein said composition comprises at least one of said prodrugs and wherein said one prodrug is a metal or amine phosphate salt of combretastatin A4.

11. A method according to claim 10, wherein said composition is combretastatin A4 disodium phosphate.

12. A method according to claim 4, wherein step (b) comprises administering to the animal said amount of said composition and another agent for counteracting immunosuppression.

13. A method according to claim 12, wherein said other agent is a selective inhibitor of NOS.

14. A method of treating a warm-blooded animal bearing a tumor and exhibiting tumor-induced immunosuppression, comprising subjecting the animal to immune-response-enhancing therapy while administering to the animal an amount of a composition selected from the group consisting of combretastatin A4, prodrugs thereof, and mixtures thereof, effective to reduce immunosuppression but insufficient to effect substantial destruction of tumor vasculature.